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ABSTRACT

To analyze the appropriateness of textual media in the construction of meaning, this paper first provides a review of the psychological research on semiotics and multiple intelligences that supports a broadened notion of text. The paper next reports on preliminary research on the construction of non-print texts in disciplines other than English/Language Arts. The paper next reviews studies on the production of non-written texts in English/Language Arts classes. The paper argues that this research, taken together, suggests that an exclusive focus on writing as a mode of learning is limiting, rather than enabling, to students in their efforts to construct meaning across the curriculum; that other composing processes are more appropriate to the construction of meaning in other disciplines; and that students would benefit from having more flexibility in the media through which they express and develop their understanding of conceptual knowledge. (Contains 38 references.) (RS)

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Constructing Meaning in the Disciplines: Reconceptualizing Writing Across the Curriculum as Composing Across the Curriculum

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Running Head: Constructing Meaning in the Disciplines

Constructing Meaning in the Disciplines: Reconceptualizing Writing Across the Curriculum as Composing Across the Curriculum

Janet Emig's (1977) characterization of writing as "a unique mode of learning" has influenced theory and instruction in English, composition, and other disciplines since the 1970's. Under the assumption that writing has a special capacity for promoting learning, Applebee (1981, 1984) and others have championed the "writing to learn" movement which assumes that by engaging in the process of writing, learners develop thought "at the point of utterance" (1981, p.100). Writing, more than other psychological tools, has such unique and inherent potential for developing thought that, according to Comprone and Jones (1993), it forms the basis for many current Writing Across the Curriculum programs. Such WAC programs attempt to incorporate increased writing into a wide range of disciplines because, the argument goes, the process of writing can help learners develop thought regardless of the content area. Writing, therefore, is regarded as a tool with the capacity to promote thinking across the curriculum, even in disciplines in which a written product is not the standard medium of communication and representation.

The status of writing as a unique and primary mode of learning is reflected in the way the terms "writing" and "composition" have become synomymous. The journal College

Composition and Communication and the annual spring conference that shares its name, for instance, are devoted exclusively to writing. College "composition" courses are really courses in the theory and practice of writing. A "text" to "composition" people is synomymous with a piece of writing. With these assumptions firmly entrenched in the discipline of writing research, writing across the curriculum becomes an obvious and logical solution to the problem that students in all content areas are not thinking sufficiently in their course work.

These assumptions, however, appear quite brittle when examined from broader theories of learning and communication than have thus far informed much writing theory. Taking a sociocultural perspective, Ackerman (1993) has challenged the notion that writing, in and of itself, serves as a tool to promote learning. He argues that while writing can potentially serve as a medium for the development of thought, it can only do so in the midst of a multifaceted restructuring of teachers' conceptions of learning and schools' organization and values. Simply imposing the idea of "writing to learn" activities on classrooms without changing the overall instructional environment, he argues, will not result in the great advances in learning claimed by advocates of the pedagogy. To Ackerman, the "writing to learn" activities themselves are but one part of a complex set of values and teeming social transactions that lead to the success of process-oriented approaches to learning.

A second challenge to the idea that writing across the curriculum has a privileged status as a psychological tool for the development of thought comes from theories based on semiotics and multiple intelligences. These theories question the extent to which any single sign system or type of intelligence has an inherent supreme capacity to promote the construction of meaning. Educational theories based on semiotics and multiple intelligences refer to the potential, rather than incarnate, capacity of different tools or sign systems to enable the construction of meaning. Rather than saying that a single mode of expression--writing, for instance--should promote learning across the curriculum, they forward the idea that an appropriate medium for a particular situation is culturally sanctioned within the values and accepted genres of the discipline. From such a perspective, the issue is not that all disciplines should embrace writing as a unique mode of learning. Rather, each discipline should endorse the notion that meaning construction is the goal of learning, with the specific medium of meaning construction determined by the historical values of the discipline and the consensus of the participants in the transaction. With meaning construction as the goal, the value shifts from endorsing writing as a unique mode of learning to identifying the appropriate medium of communication so that learners can compose an appropriate text in given situations in order to construct meaning. The characteristics of the text, and the process and

tools of composition, will vary according to the values of the discipline and the genres appropriate and acceptable to the participants.

The argument I am making has two components. One is that writing proponents are parochial in insisting that writing should be the primary means of meaning construction across the curriculum; that other composing processes are more appropriate to the construction of meaning in other disciplines. The other component is that in English/Language Arts classes, writing should be one of many types of composition allowed for the construction of meaning; that the composition of other kinds of texts (music, art, dance, drama) has similar potential for enabling students to construct meaning. The argument is somewhat paradoxical in that I am at once arguing that disciplinary conventions are important determinants of which type of text is appropriate for composing in given content areas, and that teachers of English/Language Arts should reconsider the limitations of the specific generic constraints that they impose on their students through confining composing to writing. The resolution of the paradox comes through my belief that teachers in all disciplines should reconsider the extent to which any single texual medium should have privileged or exclusive status as a vehicle for constructing meaning in their content areas. Historical values should be part of that consideration, as should perspectives from unconventional angles.

In order to analyze the appropriateness of textual media in the construction of meaning, I will first provide a review of the psychological research on semiotics and multiple intelligences that supports a broadened notion of text. Next I will report my own preliminary research on the construction of non-print texts in disciplines other than English/Language Arts; and third, I will review studies I have conducted on the production of non-written texts in English/Language Arts classes. Taken together, this research suggests that an exclusive focus on writing as a mode of learning is limiting, rather than enabling, to students in their efforts to construct meaning across the curriculum; and that students would benefit from having more flexibility in the media through which they express and develop their understanding of conceptual knowledge.

Psychological Theories

Semiotics

To say that "semiotics" provides the basis for a perspective on composing is somewhat deceptive, given that the term semiotics itself is a sign to which many meanings are imputed (Lemke, 1993). My own view of semiotics emerges from a conception articulated by Bakhtin (1981), Halliday (1978), Wertsch (1991), Witte (1992), and others, in which any given sign--whether linguistic, musical, imagaic, or other form--takes on meaning through constructive acts on the part of the perceivers. Signs (such as texts or the individual parts that constitute them) are

therefore not fixed objects but "sites of an unfolding process of negotiation and contention over meaning among conversants. . . . texts function dialogically to mediate the respective interests and understandings of their users" (Nystrand, Greene, & Wiemelt, 1993, p.297). A written text, in this view, does not have a fixed meaning. Meaning is constructed through a reader's attribution of significance to the signs of the text. Even members of a distinct community, such as language arts educators, can instantiate different conceptions to a single term; the phrases "whole language," "student-centered instruction," "writing process," "traditional methods of instruction," and others bring a vast array of meanings to mind among diverse educators based on the culture of their own learning and the individual experiences they have accumulated.

The same sort of interpretation takes place when "readers" perceive the signs of non-written texts. Art, for instance, presents spatial configurations of signs for beholders to perceive and attribute meaning to. From a semiotic perspective, <u>any sign system</u> has the potential for offering a pattern of signs for perceivers to interpret. Witte (1992) among others (i.e., Harste, Woodward, & Burk, 1984; Lemke, 1988) has argued that a "text" consists of "any ordered set of signs for which or through which people in a culture construct meaning" (p.269). Emig (1977) and others have argued that among sign systems, writing has unique powers for enabling the construction of meaning.

Others have questioned whether writing's supremacy comes through its inherent powers or its privileged status.

Wertsch (1991) argues strenuously that the potential of particular psychological tools or "mediational means" for enabling learners to construct meaning is <u>situational</u>. He argues that rather than having inherent superiority, some mediational means are "privileged" in given contexts; in particular, analytic writing is typically privileged in school settings as the most appropriate means of mediating a person's thought and activity. The relative status of a particular psychological tool comes through its perceived place in a hierarchy based on power or applicability. According to Wertsch's view of the relative value of psychological tools, some are "viewed as being more appropriate or efficacious than others in a particular sociocultural setting" because they "strike their users as being appropriate or even . . . the only possible alternative, when others are, in principle, imaginable" (p.124).

Wertsch (1991) argues that people are equipped with a host of tools for mediating thought and activity, writing and speech being but two. He argues that people, in their daily social transactions, employ a "tool kit" of means for constructing meaning, rather than a limited set of linguistic tools; for schools to limit access to just a few of these tools ignores the complexity of human behavior and the diversity of approaches people have to solving problems. Extending the metaphor,

Smagorinsky and Coppock (in press) argue that people can not simply carry the tool kit about and use it indiscriminantly; rather, the value of the psychological tools comes through the way in which they are culturally sanctioned in particular situations. So while a tool such as musical composition might be a culturally valued means for interpreting literature in one context (i.e., Tchaikovsky's musical score for Romeo and Juliet is valued in musical and theatrical circles), the same tool is typically not valued in English classes, which value writing as a mode of interpretation. The question raised by Wertsch and others is, if the tool enables the development of psychological growth in a learner--that is, if composing music effectively "interprets" a story and leads to greater insight--why is it less valued in institutions such as schools than other tools (such as writing) that tradition has sanctioned as having unique powers? What is preventing educators, as Wertsch would argue, from imagining other alternatives?

Multiple Intelligences

Gardner's (1983) theory of multiple intelligences complements semiotic theory in questioning the privileged status of writing in schools. Gardner has argued that schools are very limited in what they accept as legitimate means of expression. Except for in special courses such as art classes, schools privilege thinking and expression that are linguistic and logical/mathematical. Applebee (1981, 1984) documented the way

in which most school writing is informational or analytic, illustrating Gardner's assessment of the limitations of what schools treat as legitimate ways of thinking. Gardner maintains that such a focus denies the rich array of "intelligences" that people employ to fashion products or solve problems in their daily lives and in their professional work, and the diversity of ways of thinking that have been valued across time and cultures.

In addition to the linguistic and logical/mathematical intelligence that dominate school assessment, Gardner identifies five additional types of intelligence: musical, spatial, bodily/kinesthetic, interpersonal, and interpersonal. Musical intelligence includes both the capacity to organize and perform sound, and the ability to appreciate the nuances of performance. Spatial intelligence refers to the ability to configure space and determine spatial patterns, as when architects design buildings or billiards players determine the angles on a table. Bodily/kinesthetic intelligence is applied by dancers, athletes, and others who must use their bodies to express ideas or solve physical problems. Interpersonal intelligence, used by effective teachers, therapists, salespeople, and the like, involves understanding the moods and needs of other people. Intrapersonal intelligence refers to the capacity to look within to understand the self, as exhibited by many who undertake therapy. Most human activity involves some combination of intelligences; a painter, for instance, often must see into the human condition for

inspiration, must arrange images through spatial intelligence, and must produce the images kinesthetically.

Gardner (1983) challenges the entrenched values of schools that place a premium on logical and linguistic thinking. He provides innumerable examples of culturally valued behaviors that involve neither: sailors who navigate ships at night through a "reading" of the configuration of stars, dancers who use their bodies to create spatial representations of the human spirit, and so on. On a more mundane level, we see teachers reading the dispositions of their students, parents being sensitive to the needs of their children, football players remembering complex formations and spontaneously determining the appropriate angles for execution, people arranging furniture for effective traffic patterns, and on and on. Gardner argues that if such behaviors are part and parcel of everyday life, and central to expertise and success in many professions, they should not be devalued in terms of school assessment.

Composing Nonwritten Texts Across the Curriculum

This paper has thus far reviewed psychological theories that justify a reconceptualization of how students construct meaning across the curriculum. That reconceptualization is based on questions raised about the exclusive powers of writing for promoting learning. If, as Ackerman (1993) has argued, writing <u>in and of itself</u> does not promote learning but is simply part of an overall shift to process-oriented classrooms; and if other

psychological tools have the same potential for promoting learning as writing, then educators must reconsider writing's privileged status in schools. Wertsch (1991) has suggested that one of the main reasons that certain tools become institutionally privileged is that the participants become socialized to believe that they have no alternatives. In this section I will provide examples of non-written compositions produced across the curriculum, through which learners construct meaning in ways usually attributed exclusively to writing. The illustrations come from preliminary research into the ways students construct meaning across a high school curriculum. I will review my observations of three types of classes that draw little attention from educational researchers: an agriculture course in equine management, a home economics course in interior design, and an industrial arts course in architectural design. In each class the students engage in long-term construction of functional models of living areas. The composition of the models is collaborative, with considerable attention to process and feedback throughout the duration of design and production. Students must draw on a variety of disciplines, including geometry, physics, engineering, mathematics, and others, and synthesize it with content knowledge in order to produce a successful product. Interestingly, each teacher observed and interviewed remarked that their courses were not highly regarded by teachers in "intellectual" disciplines such as English, and

indeed each class was on the physical fringe of the school campus, the agriculture course being taught in a remote structure separate from the main academic building where students studied math, English, and history. The interior design teacher said that other teachers in the building equated the home economics courses with "basket weaving," a clear statement of the institutional value placed on the work of their course. Yet students in her class participated enthusiastically in the construction of a complex text, that being the design of a floor plan for an entire house. The following sections review the process of composition in each of the three classes.

In the equine management course students learn the range of knowledge and skills needed to maintain horses. Students come to class with calculators to determine the constitution of the feed mixes necessary for horses of different breeds, sizes, and work. Students learn the intricacies of breeding, exercise, and other problems of horse maintenance. Throughout the semester they study the needs and habits of horses so that they can care properly for animals that they might own and maintain.

The culminating project for the semester is for students to synthesize all of their knowledge of horses by building a model of a horse facility. The project takes roughly a month of class time, during which the students have access to one another's knowledge, the counsel of the teacher, and the resources of the classroom. The process of composition is thus highly social in

the manner described by Vygotsky (1978, 1986) in his postulation of the zone of proximal development; that is, the range of potential a person has for learning, facilitated by psychological tools of mediation including speech, computing devices, interaction with other people, and other resources. Students in the class begin the project with a conception of what type of horse they want to breed, what type of work those horses will do, and where the facility will be located. Their conception develops over time through interaction with the social and material tools of mediation provided through the classroom, and through their growing knowledge of the relationship between a horse's needs and the living conditions needed to support them.

Every student's model is different because every student sets up a slightly different problem. The form of the facility follows the function of the situation. Different breeds of horses require different types of spaces for eating, exercising, breeding, and other activities. Different landscapes make different demands on the designer of a facility. The climate of the region affects decisions; in a region frequently hit by tornadoes, for instance, the facility should be built as low to the ground as possible.

In order to compose such a text, students need to draw on and synthesize a great deal of knowledge about horses, materials, weather, and other factors. Their content knowledge, therefore, determines the form their composition will take. Students rely

primarily on spatial intelligence in order to design their facilities.

Through their production of the horse facilities, students are engaged in an extended process of composition, mediating and developing their evolving text through the supportive social environment of their classroom. "At the point of utterance" they need to make a number of decisions, trying out and modifying configurations as they see them taking material shape. The signs of the text they create reveal a great deal to those who keep and breed horses; the length of the runway that connects the stalls, for instance, suggests the breed and duties of the horses. Rather than being simply the product of a semester's learning, the model horse facility is a composition that takes shape through an increased understanding of concepts <u>at the point of production</u>.

Similar process take place in the extended composition of texts in the architectural design and interior design classes. The two classes overlap: The teachers of the courses stay in close contact, the classes frequently have cross-enrollments, and the students are able to coordinate their work for the two classes (i.e., they may build a model house for the architectural design course and furnish its rooms for the interior design course). Both classes, like the equine management class, are informal and involve almost continual talk among students as they work on their projects; students are encouraged to get feedback

at every stage of production from both teachers and peers, and are encouraged to seek help outside class from parents, construction engineers, and interior decorators.

In the architecture class the students' primary goal is to prepare the floor plans for, and construct a model of, a 1,200-1,800 square foot home, which must include a minimum of one full bath, a kitchenette, two bedrooms, and a two car garage. Students must design the home down to the smallest detail, including the placement of light switches; they must take into account the cost effectiveness of the materials they choose for their construction. Most students have external audiences for their products such as competitions that they are encouraged to enter.

In order to build their home the students must incorporate knowledge of math, physics, engineering, geometry, and other disciplines. They must take into account the climate in which the home will be built, considering such factors as how to pitch the roof to account for expected amounts of snowfall. Above all, the homes must be <u>functional</u>; students must determine who will live in the house and how the layout will meet the inhabitants' needs, with the ultimate question posed to students: Would you want to live in this house? Students must consider the placement and shape of closets, the routing of duct work and electrical wiring, and all other aspects of house design.

Construction of the model house takes place through the

course of the semester; according to the teacher, students are in a continual state of drafting, with each plan graded throughout the course. Students have steady access to one another, the teacher, and all of the resources of the classroom, and in addition are encouraged to study existing homes and construction sites.

The interior design class shares a similar concern with, as the teacher said, "being able to move things around in space." Students must take into consideration line design, color, proportion, a sense of rhythm and balance in a room, and other factors that make a room attractive and functional. Students are responsible for building a "dream home" that fits a defined lifestyle, which students identify through an early written consideration of their career plans, their marriage and family plans, and their hobbies and interests. They then design the interior of their home around those thoughts and feelings. Their ultimate composition is a floor plan which they decorate with sample swatches.

The home, according to the teacher, needs "to be comfortable, to be useful, to be a good place to be." Students engage in such preliminary projects as redesigning a faulty kitchen. In all tasks students may work collaboratively, though each student must turn in an individual project. Like the architecture students, the interior design students frequently work outside class to increase their expertise, going to

furniture and towel stores to examine and bring to class samples of tile, wallpaper, and other material. Like the architecture and equine management classes, the course involves a lengthy process of learning and composition, with the semester's work synthesized in the design of a single, functional product. According to the teacher, "it's not a class where you say, well, turn it in at the end of the hour. It's an ongoing project. It's started from the first day of class, it's not a project you can finish next week or next month. It can just keep on building. I don't know that there's really an end to it."

In all three of these classes, students are engaged in a long-term process of composition, producing numerous drafts that change and develop as their conceptual knowledge increases and as their goals evolve. They are producing texts that are personally meaningful to them, in that they are creating models that represent the type of space they need to express and conduct themselves. The students work in a highly social atmosphere, giving and receiving continuous feedback to aid one another's development through their zones of proximal development. Through the process of composition they learn not only content knowledge (such as the most efficient way to route heating ducts) and cultural knowledge (such as why light switches are situated as close as possible to door knobs), but personal knowledge, such as what breed of horse they prefer, how their kitchen layout will serve their particular patterns of behavior, and how their

choices of color and pattern will represent their distinct personalities.

In these classes, students are composing texts that enable them to construct meaning. Although at times writing facilitates their thinking about their projects (as when the interior design students start with an essay about their lifestyle needs), the historically-situated genres of the disciplines call for spatial models, rather than written texts, as the optimal mode of expression and representation. With the process of composition yielding the same benefits typically attributed to writing, we see that writing, rather than being a unique mode of learning, is instead one mode of learning that has greater potential for developing thought in some arenas than in others.

Non-Written Compositions in English/Language Arts Classes

In the previous section I described a number of compositional forms that are culturally appropriate to disciplines other than English/Language Arts; these media provide much the same potential as that attributed to writing in promoting learning. In English/Language Arts classes the privileged medium of communication and mediation is writing. In a set of case studies conducted at an alternative school for recovering substance abusers (Smagorinsky, 1993; Smagorinsky & Coppock, 1993a, 1993b, 1994, in press a, in press b, in press c), however, we have found that in some language arts activities the composition of nonwritten texts can provide the same sort of

learning attributed to writing, and for some students may be more culturally appropriate media for constructing meaning (cf. Smagorinsky, 1991, 1992).

The research investigated the processes involved when students compose artistic texts in response to literature. Following their reading of William Carlos Williams's "The Use of Force," the students worked either alone or in groups of up to five to create a product that represented their response to the story. The room had been stocked with paper, writing and drawing supplies, tinker toys, musical instruments, and a computer with graphics program; in addition, the students lived at the facility and could go to their rooms to get additional materials. Students experimented with a number of media, with several individuals and groups exploring musical interpretations, several creating various artistic renditions, one group dramatizing the action of the story, and another pair choreographing a dance depicting the relationship between the two central characters.

Four sets of students were selected for study, using a videotape of their behavior to stimulate a retrospective interview about their composing processes (cf. Bloom, 1954; Rose, 1984; DiPardo, in press). The interviews revealed that the students had both engaged in several processes attributed to writing, and due to the different potentials of the chosen media and unique characteristics of the individuals, engaged in processes quite different from those available through writing.

In all of the case studies, however, the students learned through the process of composing their texts; in other words, at the point of production their thinking developed about the problem they were trying to solve. This process has been described by Vygotsky (1978) as dialectic mediation; that is, a person's thinking shapes the text under production, and is simultaneously shaped by the process of producing the text.

Students from each case study reported drawing on personal experiences to compose their texts. One young woman who participated in the choreographed interpretation played the role of the girl in the story who must be examined for diphtheria by a doctor making a house call. The story takes place during an epidemic, and the girl, her parents, and the doctor all fear that she will yield a positive throat culture and subsequently die. The girl battles the doctor's efforts to extract the culture, making him rely on the use of force to pry her mouth open and examine her tonsils. Martha, the young woman who played the role of the girl, reported in her interview that she empathized heavily with the girl; that she, too, hated to have people look inside her and get to know her. She said that she hated going to the dentist and have him open her mouth to look inside; and just like the girl in the story, often fought the dentist's efforts to look within her. Martha's portrayal of the girl through her role in the dance, then, was informed by tremendous fears similar to those experienced by her character. The experience of

kinesthetically playing out those fears through her participation in the dance represented the composition of a personally meaningful spatial text, one that both revealed an understanding of the story and infusion of personal meaning into the written signs of the story. Her process of composition revealed the process of "interinanimation" (Rosenblatt, 1978) that readers experience with literature when participating in an aesthetic response.

Another student, Dexter, drew a picture to represent the relationship between the doctor and the girl. Among his response processes was to situate his artistic text in an intertext (Bloome & Bailey, 1992); that is, he drew on the image he had retained from a film he had seen, "The Wall," to create the perspective of his drawing. When asked whether he had copied the perspective directly from the film, he replied that he had not; rather, he said, "it came through my mind." He thus appropriated the perspective from a prior text in order to create the perspective for his own production.

Jane and Martha, the dancers, also created spatial relationships in order to depict their understanding of the story. Jane reported that in order to represent the adversarial relationship between the doctor and girl, they did so through their positioning relative to one another: "When the doctor is trying to get her around to his way of thinking, we figuratively did it by going around in circles opposite each other." Jane and

Martha also created spatial relationships to depict the characters' emotional states during the story. In order to do so they needed to reconstruct the story line. In Williams's text the story ends with the girl attacking the doctor in a blind fury following his forcable extraction of the throat culture. Jane and Martha decided to represent the character's feelings, rather than strictly following the story line:

> We did another dance at the very end and we were practicing on it and like she's sheltered like the little girl is hidden. She won't let anybody find out what her secret is and that's what she's doing. She is hiding and the doctor is trying to follow in her footsteps to try to figure out what is going on. And at the very end when it says that she did have [diphtheria], in the dance we made her die. She just fell and the doctor picked her up and carried her. Because like we were going to have the doctor die with her because it was like the third patient he had died and he was dying inside, but [our teacher] didn't really like that. And after we started thinking you know how he gets underneath the skin real hard, it is like we started thinking about it too and he doesn't really die. He tries to help her and stuff. We went further than the story went.

Here Jane and Martha attempted to represent the figurative

death of the character by physically having her die. After their teacher's intervention they constructed another figurative representation of the story's ending, as described by Jane:

> That is when they finally figured it out. It is like at the very end they walked together. It's like they walk two steps and when you do a little pause, the doctor shelters her and just looks at her because he's died with her. His whole life has just gone down the drain because it's another kid, he feels it's all his fault this time. And that is how I really felt when I was doing the dance.

In composing their own interpretive text they focused on the characters' emotions rather than on the literal story line provided by Williams. Their representation of the emotional story required them to rewrite the ending and represent it through spatial relations. Their composition of their choreographed text, then, enabled them to play out the emotions of the characters in ways not available through writing.

A group of four boys approached their interpretation quite differently. They used a sophisticated keyboard instrument to compose a soundtrack that represented the changing moods and rhythms of the story. None of the four was a trained musician; the keyboard instrument, however, provided such a great range of potential sounds and dubbing capabilities that even a person with rudimentary knowledge could program it for a soundtrack. The

boys reported that their musical accompaniment was intended to represent the story line:

> Cory: They had this funky like Star Trek sound going on and I said, "This has nothing to do with the little girl not wanting to show her parents how she had the disease that could kill her, and they were like "r-r-r-r-r-r," and they had this funky sound on, and I was like, you know, at first, you know, you need to have like a fight going, and then at the end where she was so enraged over - so enraged from defeat, that kind of mellowed out some because it, it would show the feelings and the end of defeat that the little girl was going through.
>
> Q: So did you say that the loud part showed the rage?
>
> Cory: Yeah, and her struggling, you know, how, having a kind of an intense sound because of her struggling, not wanting to open her mouth, not wanting to let that, that doctor do a throat culture.
>
> Q: Uh huh. And then the mellow sound was her -
>
> Jake: Defeat.

Most relevant to the current argument was the way in which the students' compositions served a dialectic function; that is, at once the texts represented the students' thinking about the story, and the process of composing the texts changed their thinking about the story. Jane, one of the dancers, reported

that her feelings about the doctor changed through her portrayal of him:

> I finally figured out what it is like to be in the position of the doctor. That is why I didn't hate the doctor so much because I knew how he felt. . . . [I learned about] how the doctor felt. I knew his feelings, but knowing it and feeling it is totally different things. [I learned] about myself, that I can feel their feelings. I see how they feel.

The process of composing nonverbal texts also changed students' understanding of the story. Dexter, who drew a picture representing the relationship between the doctor and the girl, related that the meaning of the drawing changed as the picture developed. For instance, Dexter's representation of the doctor was quite threatening; yet he revealed that when he started his drawing he was not certain what the threatening figure would represent:

> Dexter: I wasn't really sure if it was him going to be the doctor or not until the end of the story, I mean, until the end of the drawing, because I was thinking, well, it could be this person that she, that she has imaged in her mind and uh--or this could be an analogy of diphtheria, but then I said it doesn't matter. It's just a doctor. It was going through her mind, [inaudible] but I liked to read. The first time I'd

read the doctor; the second, the analogy. It's just through that one story.

Q: So you mean, even after you drew the face and everything, it wasn't the doctor yet?

Dexter: Uh-huh. I mean it could have been a lot of things. It depends on your view point of the picture, but what I was thinking is--it was the doctor and then it was an analogy of the whole attitude of the story, and then it was the, her parents' attitude, or the parents, especially her parents.

Dexter's attribution of multiple meanings to the dominant figure in the drawing suggests that when he created his own text he ascribed meanings for that figure that he had not considered prior to having drawn it, meanings (such as the mother or a disease) which the graphic image itself does not readily suggest. Not only does the picture represent his view of the characters, the process of drawing the picture enables him to develop new ideas about the story. The process is similar to the one that Applebee (1981) attributes to writing, who argues that educators should consider

writing as a tool for exploring a subject. . . . [W]riting can be a powerful process for discovering meaning rather than just transcribing an idea that is in some sense waiting fully developed in the writer's mind. Our language provides a whole panoply of devices

> that not only convey our meaning to others, but help us develop the meaning for ourselves. . . . [W]e tend to overlook the extent to which these devices help us generate new ideas "at the point of utterance." (p. 100)

Also overlooked is the potential that other psychological tools have for enabling similar processes. As the experiences of these students illustrates, nonwritten texts are capable of providing the same potential for enabling the construction of meaning as written texts. Yet their producation is rarely sanctioned in English/Language Arts classes. One might argue that, just as models of horse facilities are culturally appropriate to equine management courses, written essays are the historically sanctioned genre for constructing meaning in English/Language Arts classes. Yet the notion that written texts should be privileged is hollow. Throughout history artists have engaged in "transmediation" (Harste, 1993); that is, they have interpreted one type of text through another. Biblical scenes and stories have been interpreted through paintings, sculptures, masses, dances, and other media. Poets have written odes on Grecian urns and other works of art. Animators have interpreted classical music through stories, as illustrated in the film "Fantasia." And, of course, literary critics have written essays interpreting literature. The point is that all of these forms of transmediation have been culturally valued as means of

constructing meaning, and have been respected and revered by the public as well as by the cogniscenti. For some reason, however, the appreciation of non-written interpretations of life and literature has not broken through the barriers of the English/Language Arts classroom, where writing has established exclusive rights "as a unique mode of learning." The research I have reported on students' artistic response to literature suggests that such a view is not simply wrong, but disabling to students as well.

Discussion

The research base that supports my argument, though not extensive, is sufficient enough to raise questions about the privileged status of writing as a vehicle for developing thought in both English/Language Arts classes and other disciplines. Writing Across the Curriculum, as Ackerman (1993) has maintained, "is at best an argument yet to be made" (p. 335). Our continued research into this question (i.e., Ackerman, Lemke, Smagorinsky, & Coppock, 1993, 1994) suggests that it is an argument that will be very difficult to make given both the multitude of discipline-appropriate modes of composition and the multitude of culturally-appropriate sign systems available to learners (Smagorinsky & Coppock, in press).

With writing having questionable status as a mode of meaning-construction, not just across the curriculum but in English/Language Arts classes as well, educators need to

reconceptualize the mean through which to accomplish the goal of promoting the development of thought across the disciplines. My proposal is to shift the emphasis from writing to composing. The processes engaged in by students in the equine management, architectural design, interior design, and alternative school classrooms all involved the composition of complex, meaningful texts that were culturally appropriate and situationally valued. In serving as tools for learning the composition processes met the goals of "writing to learn" advocates even though they did not involve writing for the most part.

The question that presents itself is, why is writing so highly privileged? Why do the home economics teachers refer to their courses as being equated with basket weaving? Why are courses such as home economics, in which students make useful products that are important to them, located physically on the margins of schools? Why, as Wertsch (1991) asks, is the use of and value on alternative psychological tools so difficult to imagine in school settings?

Questions such as these will become increasingly crucial for educators to answer as schools become increasingly diverse, and as school values must become more pluralistic and inclusive. As Gardner (1983) points out, different intelligences are fostered by different cultures; and as schools become less dominated by students of Western descent the focus on logical linguistic assessment will become a more questionable practice. Researchers

such as Moll (1992) and Philips (1972) have found that ethnic minorities such as Mexican-Americans and Apaches fail in school in large part because of cultural differences between their community-based communicative competence and that expected and evaluated in schools. The multiplicity of sign systems available to people of various cultures will eventually questioning the privileging of particular sign systems and shift the emphasis of schooling to the construction of meaning, rather than to facility with specific vehicles for constructing meaning.

That shift should already be in progress, and is in some education systems (Gardner, 1993). The foundation supporting a broadened conception of composing already exists; the responsibility for applying it now rests with the educational community.

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